

ing beings: their birth, life, and death. Silly and tragic things happen to them. They get mixed up with the police, are lauded, or joked about; their private lives, their comings and goings, and how they affect the community in which they live are all reported as they happen. We can hardly say that birds are on the way to becoming citizens, but the citizens are certainly becoming aware of them. As far as birds are concerned, the newspaper reading public has a chance to be biologically literate.

## FOSSIL COLLECTORS COMB WYOMING AREA

For the third successive season, a paleontological expedition is working in the upper and lower formations of the Washakie Basin in Wyoming. Leader of the expedition is William D. Turnbull, Assistant Curator of Fossil Mammals. He is accompanied by David Collier, a volunteer assistant.

Objective is the collection of more fossil mammals of the middle Eocene epoch (about 50 to 45 million years ago). The 1956 and 1957 expeditions to the Washakie, a circular area of about 400 square miles, were highly successful, and the prospects of the present excavations to obtain additional species of the ancient fauna are promising. It is expected that fossil reptiles, fishes and other animals, as well as mammals, will be obtained.

### Two More Free Movie Shows Offered for Children

The final two programs in the Raymond Foundation's free summer series for children will be given on the first two Thursday mornings in August. There will be two showings of each program, the first at 10 A.M., and the second at 11 or 11:15 as per schedule below. No tickets are required. Children are invited to come alone, accompanied by parents or other adults, or in organized groups. Following are the dates and titles:

**August 7—A TRIP TO THE MOON**  
(for older children)  
(10 and 11:15 a.m.)

Also a cartoon

**August 14—VACATION SPECIAL**  
(10 and 11 a.m.)

Vacation fun in your own backyard and in the wilderness

Also a cartoon

### Albinism Thwarted

A robin that was partly albinistic, with underparts mostly white, mated with a normal bird, and raised two broods of normal young. It then moulted into a plumage that was nearly normal, according to a report from Salt Lake City.

—Condor

## PRE-GUTENBERG PRINTING FOUND IN MEXICO

By ALFRED LEE ROWELL

DIORAMIST, DEPARTMENT OF ANTHROPOLOGY

A RECENTLY INSTALLED EXHIBIT in Hall 8 (Ancient and Modern Indians of Mexico and Central America) deals with the Totonac people who lived in the central Veracruz region of Mexico from A.D. 900 to 1500. This exhibit includes several stamps made of pottery clay, fired like any other piece of pottery, that were used for printing designs on fabrics or on the human body.

These stamps, essentially devices for saving labor and time, are based on the same principle as all printing since and even before the time of Gutenberg. Our textile industry also uses the same principle in producing millions of yards of printed fabrics. A typewriter is really a highly efficient machine for applying small stamps to a suitable surface.

### NOTEWORTHY IN DESIGN

These Totonac stamps have interesting, well-designed faces, probably with symbolic or mystical meanings that we do not comprehend because we do not have a complete understanding of the mental and spiritual background of the people. Two of the stamps, dating from about the 12th century, were selected to show their imprint as it would be made in actual use. One of these has a strong, bold design of heavy black lines, showing the traditional feathered serpent. The other, which is smaller, with a more complicated design of lighter lines, shows the wide-open jaws of a feathered serpent and a monkey. Both are highly stylized. The design of the monkey is unusually well conceived and gives a better expression of the nature and character of the subject than a photographically realistic drawing. It compares favorably with the best of our present-day designing.

Another interesting feature of these stamps is their method of manufacture, especially the smaller one, as we learned in making plastic reproductions of them. These reproductions were made to avoid discoloring the originals in the printing process. We first made a squeeze, or impression, in Duron plastic, hardening it by baking it in place on the stamp at a temperature of 300° F. for about one hour. This provided a mold, or matrix, for casting a replica of the original stamp by pressing Duron into it and baking it in place. A dusting of talc acted as a separator. The cast replicas were used for making the prints shown in the exhibit.

It was immediately apparent from the Duron impression of the smaller stamp that it had been made by squeezing moist clay into a mold, or matrix, that had been formed by pressing the black parts of the design into moist clay, evidenced by the pushing up of the material. After this mold for making stamps was dried and probably fired, it could then be used for turning out an unlimited

number of stamps in a primitive mass-production or for making replacements for broken stamps. The slabs of moist clay bearing the design could be bent into concave or convex forms, as might be required for printing on various surfaces. It is prob-



POTTERY STAMP FOR PRINTING

Used by early Totonac tribesmen of Mexico for transferring design to fabric and sometimes to their own skin. The stamp is about three inches long.

able that the concave form shown in the exhibit may have been used for printing a fabric stretched across the thigh of the user or for printing on the skin of arms or legs.

### LABOR-SAVING METHOD

This method of making the stamp was an example of labor-saving practicality, since it is easier to press a line into clay than it is to



IMPRESSION OF STAMP

The design imprinted on cloth shows a monkey (at right) and the gaping jaws of a serpent (left).

build up a line, but there was further evidence of the same ingenuity. The small S-shaped elements in the border of the design had been pressed into the clay of the matrix by using a small stamp or die. There is no way of knowing how this die was made—whether it was carved from wood or other material or made of clay and fired.

Thus it is clear from these 800-year-old stamps that Totonac craftsmen were not lacking in creative ingenuity and that they had worked out labor-saving methods for accomplishing their purposes.

The world's largest model of the moon is exhibited in Hall 35.





1958. "Fossil Collectors Comb Wyoming Area." *Bulletin* 29(8), 7-7.

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